Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 97 of the	)	
Commission's Rules Governing the	)	RM-7869
Amateur Radio Service Regarding	)	
Repeater and Auxiliary Operation	)	
In the 1.25 Meter Band	)	

COMMENTS OF A GROUP OF SOUTHERN CALIFORNIA 222 MHZ WEAK SIGNAL OPERATORS

These comments are offered in support of the Petition for Rule Making of the American Radio Relay League, Inc. (the League) in the above-captioned matter by a group of Southern California amateur radio licensees who have engaged in weak signal communications and other narrow bandwidth, non-repeater operations in the 1.25 Meter Band (222-225 MHz).[1]

The League has petitioned the Commission to set aside a small portion of the 1.25 Meter Band (150 KHz, or five per cent of the band) for use by stations other than repeater or auxiliary stations. The Commission has already reserved much larger segments for non-repeater use in the 50-54 MHz, 144-148 MHz and 420-450 MHz amateur bands.[2] In fact, the former 220-225 MHz amateur

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[1] A list of amateur licensees who join in these Comments appears at the conclusion. A number of others who favor a non-repeater subband in the 1.25 Meter Band are filing separate Comments.

[2] Section 97.205(b) of the Commission's Rules reserves for non-repeater use one megaHertz of the 50 band, one megaHertz of the 144 MHz band, and five megaHertz of the 420 MHz band.

band included a 500 KHz segment that was reserved for non-repeater use until the 220-222 MHz portion of the band was reallocated for non-amateur use in Docket 87-14.

We strongly support the League's petition to set aside a small segment of the 1.25 Meter Band for non-repeater use because without action by the Commission, there will simply be no segment of the band reserved for weak signal and other experimental use on a national basis. We wish to put in the record what has occurred in Southern California to underscore the need for Commission action in this matter.

For some years prior to the Commission's action in Docket 87-14, the 222-225 segment of the 1.25 Meter Band was utilized primarily by repeater stations, while the 220-222 MHz segment, now reallocated, was used for a number of purposes, including digital and weak signal communications. Under the Southern California band plan in effect then, there were 69 repeater pairs between 222 and 225 MHz, each consisting of a 20 KHz input channel and a 20 KHz output channel. Within the non-repeater band segment below 220.5 MHz, weak signal operators utilized such propagation modes as moonbounce, meteor scatter, tropospheric ducting and occasionally even sporadic-E, a means of propagation that was first observed at frequencies this high in 1987--by two amateur radio operators.

When the bottom two megahertz segment of the band was reallocated, several repeater coordinating bodies in other regions

recognized new (albeit small) non-repeater subbands at 222 MHz, even though that forced some repeater stations to move higher in the band--and share frequencies previously used by other repeaters on an exclusive basis.

However, such voluntary cooperation among various users of the band did not occur in Southern California. In essence, what

repeater's receiver were as selective as practicable. And, of course, there is a potential for unacceptable levels of mutual interference with nearby non-amateur stations operating just below 222 MHz if high power stations are forced to operate just inside the band edge on frequencies that should be treated as a guard band.

SMA's action was unconscionable because it did not make any reasonable provision for the legitimate needs of weak signal operators or other experimental users of the 1.25 Meter Band, while preserving every standard repeater pair in the face of a 40 percent reduction of the size of the band. As the League pointed out at paragraph 6 of its Petition, simple fairness suggests that all users of the band should share in the retrenchment necessitated by the elimination of 40 percent of the band.

Now that the League has petitioned for a modest non-repeater subband, we have been hearing strong reactions from some SMA members. They are outraged that the League proposes to give them only 95 percent of the band--they want 100 percent of the band

virtually the entire band, to the exclusion of other legitimate operating interests. It is particularly inappropriate to allow local FM repeater communications--with each user occupying 40 KHz of the band (i.e., a 20 KHz input channel and a 20 KHz output channel)--to so thoroughly dominate the band as to preclude the growth of other, more spectrum efficient operating modes.

As weak signal operators on the 1.25 Meter Band, some of us have been active long enough to have witnessed almost the entire history of amateur radio activity on this band. Several of us were active on this band long before the first FM repeaters made their debut about 1970. In fact, some current operators were on 1.25 Meters when the late John Chambers (formerly W6NLZ) stunned the scientific community and shattered the conventional wisdom by completing a two-way contact between Southern California and Hawaii on 222.070 MHz on June 22, 1959--spanning a distance of 2540 miles on what was thought to be a purely local band.

When Chambers and his partner in this feat, Ralph Thomas (then KH6UK), demonstrated that VHF signals can sometimes be propagated thousands of miles out to sea within tropospheric ducts, this discovery by radio amateurs was not just of scientific interest. Indeed, The United States Department of Defense immediately understood its practical significance: if local military VHF communications can sometimes be monitored thousands of miles out to sea when tropospheric ducting occurs, national

security could be compromised in many ways. Follow-up studies by the military, using radio equipment in aircraft, aboard ships and on shore confirmed that VHF and UHF signals travel great distances over bodies of water under certain weather conditions.[3]

That such discoveries were made first by radio amateurs underscores the importance of allowing weak signal propagation experiments to continue on each amateur band--and on a national basis. It can hardly be argued that there are no other unknown technical phenomena awaiting discovery by amateur experimenters. And yet, experimental work such as John Chambers did three decades ago could not be done on the 1.25 Meter Band in Southern California today, given the utter lack of spectrum reserved for weak signal operations in this band.

As weak signal operators who wish to use the 222 MHz band,

Some of us have watched with concern as repeater stations have proliferated throughout the entire 1.25 Meter Band, each

hand to be relocated above 222.150, provided their owners take

CERTIFICATE OF SERVICE

I, James Steffen, certify that on this 23rd day of December, 1991, I caused a copy of the foregoing "Comments of a Group of Southern California 220 MHz Weak-Signal Operators" to be mailed first class, postage prepaid, to the following:

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